

What is claimed is:

- 1 1. A fan motor assembly having an integrated brush support and bearing retainer
2 comprising:
3 a motor assembly having a rotatable shaft;
4 a working air fan coupled to said shaft; and
5 a motor bracket and baffle assembly interposed between said working air fan
6 and said motor assembly, said motor bracket and baffle assembly retaining a bearing
7 which rotatably receives said shaft.

- 1 2. The assembly according to claim 1, wherein said motor bracket and baffle assembly
2 comprises:
3 a bracket, said motor assembly mounted to said bracket, and
4 a retainer coupled to said bracket, said bracket and said retainer capturing said
5 bearing therebetween.

- 1 3. The assembly according to claim 2, wherein said bracket has a cover plate with a
2 bracket hole therethrough;
3 said cover plate having a bearing wall extending axially therefrom and around
4 said bracket hole; said bearing wall enclosing at least a portion of said bearing.

- 1 4. The assembly according to claim 3, wherein said retainer comprises:
2 a frame having a retainer hole therethrough which is alignable with said bracket
3 hole; and
4 an outer race collar extending axially from said frame and around said retainer
5 hole, said outer race collar enclosing at least a portion of said bearing.

- 1 5. The assembly according to claim 4, wherein said cover plate further comprises:
2 a step extending radially from said bearing wall toward said bracket hole;
3 a ledge wall extending axially from said step; and
4 a ledge extending radially from said ledge wall toward said bracket hole,
5 wherein said bearing has an outer race and an inner race, and wherein said outer race
6 is supported by said step.

- 1 6. The assembly according to claim 5, wherein said retainer further comprises:
2 a race flange extending axially from said outer race collar; and
3 a bearing support surface extending radially from said race flange, wherein said
4 bearing support surface and said step hold said outer race when said retainer is
5 coupled to said bracket.

- 1 7. The assembly according to claim 2, wherein said bracket has a plurality of alignment
2 posts and said retainer has a plurality of alignment holes that are mateable with said
3 alignment posts.

- 1 8. The assembly according to claim 7, wherein said bracket has a plurality of fastener
2 posts with fastener holes, said retainer having tab holes alignable with said fastener
3 holes for receiving fasteners to secure said retainer to said bracket.

- 1 9. The assembly according to claim 2 wherein said retainer comprises:
2 a frame having a retainer hole therethrough which is alignable with said bracket
3 hole;
4 a pair of brush boxes extending from said frame and diametrically opposed to
5 one another;
6 a pair of spring posts extending from said frame, each said spring post in
7 proximity to one of said corresponding brush boxes; and
8 wherein said fan motor assembly further comprises
9 a spring carried by each said spring post.

- 1 10. The assembly according to claim 9, wherein said spring comprises:
2 a coil having a brush end and a bias end; and
3 said retainer further comprising
4 a pair of fingers extending from said frame, each said finger retaining a bias end
5 of said spring.

- 1 11. A bottom motor bracket and baffle assembly interposed between a motor assembly
2 having a shaft, and a fan assembly rotated by the shaft, the baffle assembly,
3 comprising:
4 a bracket for carrying the motor assembly;
5 a bearing carried by said bracket, said bearing rotatably receiving the shaft; and
6 a retainer secured to said bracket and holding said bearing in place.
- 1 12. The baffle assembly according to claim 11, wherein said bracket comprises:
2 a cover plate, said cover plate having a bracket hole therethrough; and
3 a bearing wall disposed about said bracket hole, said bearing positioned within
4 said bearing wall and aligned with said bracket hole.
- 1 13. The baffle assembly according to claim 11, wherein said retainer comprises:
2 a frame, said frame having a retainer hole therethrough; and
3 an outer race collar disposed about said retainer hole, said bearing positioned
4 within said outer race collar and aligned with said retainer hole.
- 1 14. The baffle according to claim 11,
2 a cover plate, said cover plate having a bracket hole therethrough; and
3 a bearing wall disposed about said bracket hole, said bearing positioned within
4 said bearing wall and aligned with said bracket hole;
5 a frame, said frame having a retainer hole therethrough; and
6 an outer race collar disposed about said retainer hole, said bearing positioned
7 within said outer race collar and aligned with said retainer hole; and
8 wherein said bearing has an outer race and an inner race, said bearing wall and
9 said outer race collar capturing said outer race.
- 1 15. The baffle assembly according to claim 11, wherein said bracket comprises:
2 at least one alignment post, and at least one fastener post; and
3 wherein said retainer comprises:
4 a plurality of tabs, each said tab having a tab hole therethrough, said tab holes
5 alignable with said at least one alignment post and said at least one fastener post.

- 1 16. The baffle assembly according to claim 15, further comprising:
2 at least one fastener received through said tab hole to secure said retainer to said
3 bracket.

- 1 17. The baffle assembly according to claim 11, wherein said retainer comprises:
2 a frame, said frame having a retainer hole therethrough; and
3 a pair of brush boxes extending from said frame and diametrically opposed to
4 one another.

- 1 18. The baffle assembly according to claim 17 further comprising:
2 a pair of spring posts extending axially from said frame; and
3 a spring carried by each said spring post, each said spring having a brush end
4 and bias end.

- 1 19. The baffle assembly according to claim 18 wherein each said brush box has extending
2 therefrom a spring nub, said spring nub retaining said brush end.

- 1 20. The baffle assembly according to claim 18, wherein said retainer further comprises:
2 a pair of fingers extending from said frame, each said finger retaining said bias
3 end of said spring.